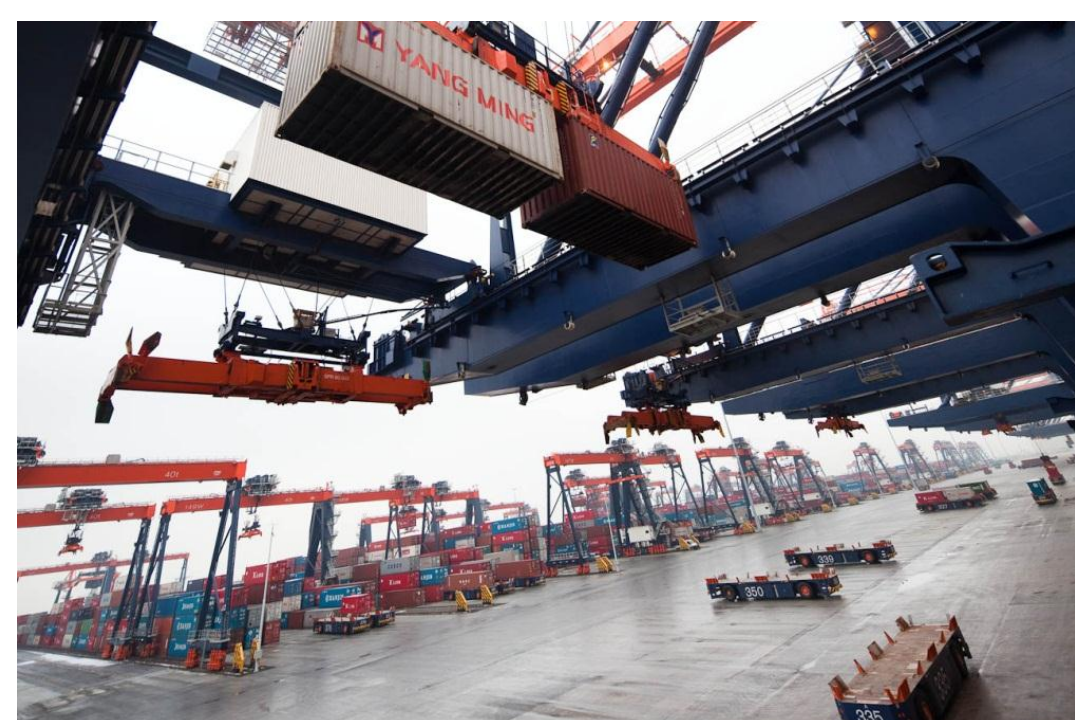
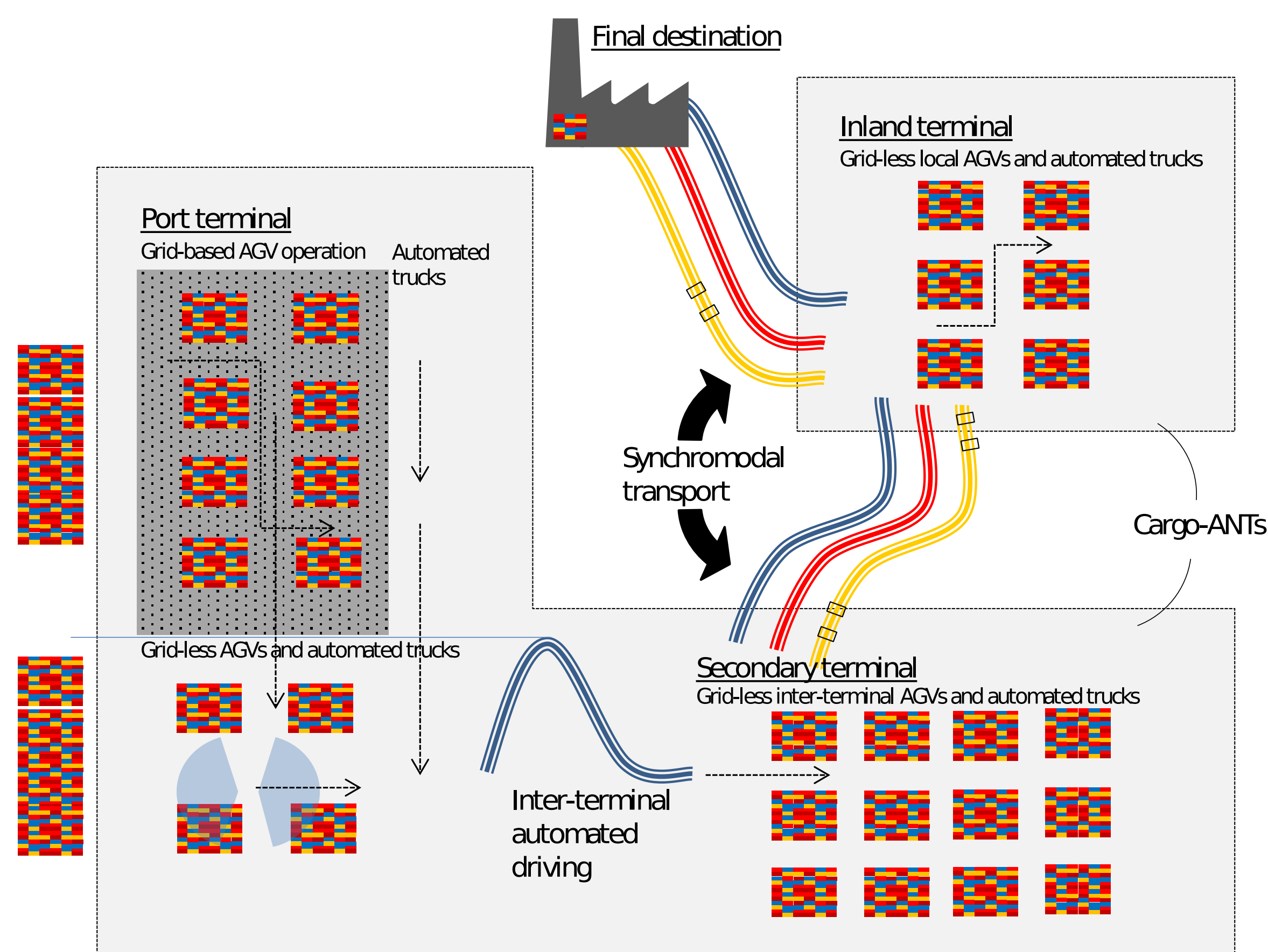


# Cargo-ANTs

## Cargo Handling by Automated Next Generation Transportation Systems for Ports and Terminals

CAISR  
Centre for Applied Intelligent Systems Research

SUPPORTED BY  
Knowledge Foundation



### Summary

The Cargo-ANTs project aims to create smart Automated Guided Vehicles and Highly Automated Trucks that can co-operate in shared workspaces for efficient and safe freight transportation in main ports and freight terminals. The emphasis of the project is on

- increased performance and throughput
- high levels of safety
- development of automated shared workyards
- planning, decision, control, and safety for AGVs
- environment perception and grid-independent positioning

### Key Figures

Cargo-ANTs is a 3-year project beginning in September 2013. It has a total budget of 4.7M EUR. The European Commission contributes 3M EUR, of which 314k EUR go to the Center for Applied and Intelligent Systems Research at Halmstad University.

### Project Partners

- TNO, Netherlands
- Volvo Technology, Sweden
- ICT Automatisering Nederland
- CSIC, Spain
- Halmstad University, Sweden

### Research Questions

Which combination of positioning techniques and sensors allow for **reliable and accurate positioning** for the proposed applications?

How can **reliable environmental perception** be achieved, in particular moving and stationary object detection, drivable path detection, docking point detection, absolute and relative object positioning?

How to set up and integrate a vehicle control system, including **high-level site planning, path planning, interaction planning**, and feedback control?

How can **functional safety** of automated vehicles be achieved?

### Our Contributions

- multi- and single-vehicle path planning
- interaction planning and adaptation

### Contact

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WP1: Project management

WP3: Requirements, design and safety

WP4: Vehicle localisation and object detection

WP5: Planning, decision and action

WP6: Verification & validation, safety assessment and integration

WP2: Dissemination and exploitation